

# OCCASIONAL PAPERS



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## REVISED CHECKLIST OF NORTH AMERICAN MAMMALS NORTH OF MEXICO, 1997

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Since the first checklist of scientific and vernacular names of species of North American mammals was published by Jones et al. (1973), the checklist has been updated periodically for two decades (Jones et al., 1975; 1979; 1982; 1986; 1992). From the beginning, it was hoped that the checklist would provide a useful reference for many scientific endeavors in general, both in the field and in the laboratory, and that it would be useful to students in particular. Since the publication five years ago (Jones et al., 1992) of the most recent revision of the checklist, demand for copies essentially has eliminated the origi-

nal supply. In addition, some significant taxonomic and nomenclatural changes have been published in the primary literature on mammals since that time. As in previous revisions of the checklist, we have attempted to include all species of Recent mammals known to occur in North America (and its adjacent waters) to the north of Mexico and recognized in the published literature through the end of 1997. The checklist represents a general consensus among the authors, but does not necessarily imply complete agreement among them on all issues.

### DEPARTURES FROM JONES ET AL. (1992) AND OTHER NOTES

The changes that have been made in the scientific names from those listed in Jones et al. (1992) are discussed below. Some other pertinent comments are included that might help to explain the current list of recognized species. In the interest of promoting stability and uniformity, we have relied heavily on the list of species of mammals presented in the work edited by Wilson and Reeder (1993). How-

ever, some departures from that list have been taken; these are explained in the following comments.

As predicted by Jones et al. (1992), the number of exotic species (identified by an asterisk) living in the wild state in North America has increased. Justifications for their inclusion in the checklist are included in the following text.

## INSECTIVORES

*Soricidae*.—Carraway (1995) considered *Sorex alaskanus* as a species distinct from *S. palustris*. Also, *S. alaskanus* was listed as a species by George (1988) and Hutterer (1993). Therefore, we have included the Glacier Bay water shrew in the checklist. Rausch and Rausch (1995) concluded, on the basis of identical karyotypes, penis structure, and morphology of incisors, that *Sorex jacksoni* can not be distinguished from *S. cinereus*, and recommended considering it as an insular subspecies of the latter. Rausch and Rausch (1997) determined that the Pribilof Island shrew should be called *Sorex pribilofensis* rather than *S. hydrodromus*. The Alaska tiny shrew, *Sorex yukonicus*, was described recently by Dokuchaev (1997) from interior western Alaska.

## BATS

*Phyllostomidae*.—There are some conflicting reports as to whether or not *Artibeus jamaicensis* may occur on the Florida Keys (Lazell and Koopman, 1985; Humphrey and Brown, 1986; Koopman, 1993). Until this situation is clarified, we refrain from adding the Jamaican fruit bat to the current checklist.

*Vespertilionidae*.—Based on an interpretation of the gender of the name of the genus *Myotis*, Woodman (1993) proposed changes in the names of five species of bats in North America. However, see the comments by Pritchard (1994). Furthermore, the genus name *Myotis* was placed on the *Official List of Generic Names in Zoology*, where the gender was designated explicitly as masculine (International Commission on Zoological Nomenclature, 1958). Article 30(a) of the International Code of Zoological Nomenclature states that “A genus-group name that ends in a Greek or Latin word takes the gender given for that word in the standard Greek or Latin dictionaries, unless the Commission rules otherwise” (Ride et al., 1985). In view of the above, we have retained the original names of species of *Myotis*.

Based on a cladistic analysis of morphological characters in Plecotine bats, Tumlison and Douglas

(1992) recognized *Corynorhinus* as a separate genus (rather than as a subgenus), and restricted *Plecotus* to Old World forms of this group. This arrangement was not followed by Koopman (1993). Also, Qumsiyeh and Bickham (1993), based on a cladistic analysis of a matrix of chromosomal fusions among this group of bats, produced a phylogeny that could be used to argue for retention of *Plecotus* as the generic name. We retain the name *Plecotus* as the genus for the two North American species, but note that this problem warrants additional study.

*Molossidae*.—Based on the discovery of at least three colonies of *Molossus molossus* in the Florida Keys, this species has been added to the list (Frank, 1997).

## PRIMATES

*Cercopithecidae*.—There are reliable reports of free-ranging groups of Japanese macaques in South Texas (Texas Department of Parks and Wildlife, pers. comm.). Therefore, *Macaca fuscata* is added to the checklist.

## LAGOMORPHS

*Leporidae*.—The cottontail of the southern Appalachians has been separated from the New England cottontail (*Sylvilagus transitionalis*) as *S. obscurus* by Chapman et al. (1992) on the basis of both chromosomal differences ( $2n=52$  and 46, respectively) and morphology.

## RODENTS

*Aplodontiidae*.—It seems that the grammatically correct spelling of this family name is *Aplodontiidae* as used in checklists by Miller (1924), Miller and Kellogg (1955), and Anderson (1946), as well as in the field guide by Palmer (1954). This spelling is in accordance with Article 35(d) of the International Code of Zoological Nomenclature (Ride et al., 1985).

*Sciuridae*.—We follow Hoffmann et al. (1993) in recognizing *Spermophilus canus* and *S. mollis* as species distinct from *S. townsendii*; this distinction is supported by molecular data. We favor the convention proposed by Parkes (1978) for the formation of vernacular names if the second component is a taxonomic misnomer; therefore, *Cynomys* refers to prairie-dog.

*Heteromyidae*.—Based on continuous geographic ranges and morphological features, *Perognathus xanthonotus* was placed in synonymy with *P. parvus* by Williams et al. (1993), a course that is followed herein. We agree with Lee et al. (1996), who divided *Chaetodipus penicillatus* into two species (*C. penicillatus*, a Sonoran Desert form, and *C. eremicus*, a Chihuahuan Desert form) on the basis of studies of allozymes, chromosomes, and mitochondrial DNA sequences. Williams et al. (1993) and Sullivan and Best (1997) listed *Dipodomys simulans* as a species distinct from *D. agilis*; their recommendations are followed herein. In addition, we follow the suggestion of Best et al. (1996) that *D. elephantinus* is a subspecies of *D. venustus*.

*Muridae*.—We have listed *Oryzomys palustris* and *O. couesi* as separate species for some time (Jones et al., 1979), although the original study separating them (Benson and Gehlbach, 1979) was somewhat provisional. Based on extensive analysis of genetic variation in the zone of contact between the two species in South Texas, and lack of any evidence of hybridization or introgression, Schmidt and Engstrom (1994) demonstrated that the two do indeed represent distinct species. We continue to regard *O. argentatus* as indistinct at the species level from *O. palustris*, and agree with the need for clarification as stated by Musser and Carleton (1993).

In the genus *Peromyscus*, we have dropped *P. oreas* and *P. sitkensis* from the checklist and added *P. keeni* in accordance with the findings of Hogan et al. (1993). We follow MacDonald and Cook (1996) in use of the common name Keen's mouse. Walpole et al. (1997) suggested that *P. eremicus* might be composite, consisting of Sonoran and Chihuahuan forms. This was implied previously by Riddle (1995). We

suggest that additional clarification is needed on the composition and nomenclature of the taxon now referred to as *P. eremicus*.

We recognize *Neotoma magister*, the Appalachian woodrat, in accordance with the results of studies published by Hays and Harrison (1992) and Hays and Richmond (1993). However, the relationship between *N. floridanus* and *N. magister* seems worthy of additional investigation.

Johnson and George (1991) applied the generic name *Arborimus* to the species known formerly as *Phenacomys albipes* and *P. longicaudus*; they further recognized *A. pomo* as distinct from *P. longicaudus*. We follow Musser and Carleton (1993) in provisionally recognizing *Phenacomys ungava* as specifically distinct from *P. intermedius*.

MacDonald and Cook (1996) listed *Microtus coronarius*, Coronation Island vole, as a separate species. However, we follow the convention that this is a subspecies of *M. longicaudus*, pending further clarification.

Finally, we address once more the unstable systematics of the northern lemmings. The brown lemming of North America again must be known as *Lemmus trimucronatus* rather than *L. sibiricus* (Jarrell and Fredga, 1993). Within the collared lemming complex, Engstrom et al. (1993) provided evidence for the specific independence of *Dicrostonyx richardsoni* from *D. groenlandicus* and *D. kilangmiutak*, contrary to the view of Jarrell and Fredga (1993), who consider all North American collared lemmings other than *D. hudsonius* to be conspecific with *D. groenlandicus*. They discount the cytogenetic evidence presented by Rausch and Rausch (1972), who noted fertile crosses between *D. nelsoni* and *D. unalascensis* (synonym *stevensoni*), but found crosses between  $F_1$  offspring to be infertile. The taxa *D. nelsoni* and *D. rubricatus* also showed severely impaired reproduction when crossed (Jarrell and Fredga, 1993), as did crosses with *D. exsul*. The last western arctic subspecies, *nunatakensis*, lacks study. Pending further information, we provisionally continue to recognize nine species, as did Musser and

Carlton (1993). However, several investigators believe that this is a gross overestimate of the actual species-level diversity of this genus (Van Wijnsberghe and Engstrom, 1992; Borowik and Engstrom, 1993; Eger, 1995).

## CARNIVORES

*Canidae*.—Recent molecular evidence (Mercure et al., 1993) provides additional support for the specific independence of the swift (*Vulpes velox*) and kit (*V. macrotis*) foxes. Therefore, we now recognize both taxa.

*Otariidae*.—We follow the proposals by Parkes (1978) and Rice (in press) with regard to the vernacular names of fur-seals and sea-lions.

*Mustelidae*.—We retain the list of species presented previously (Jones et al., 1992), except that we follow van Zyll de Jong (1972; 1987) and Wozencraft (1993) in the use of *Lontra* as the generic name of the northern river otter. Based on information presented by Hoffmeister (1986) and Jones and Schmitt (1997), we have added *Mustela putorius*, European ferret, to the checklist.

*Mephitidae*.—Based on phylogenetic relationships of skunks (*Conepatus*, *Mephitis*, *Spilogale*) and the Oriental stink badger (*Mydaus*) determined from analyses of mitochondrial-DNA sequence data and morphological data, Dragoo and Honeycutt (1997) proposed that these taxa be grouped together in the family Mephitidae. These results are similar to those of Wayne et al. (1989).

*Felidae*.—Various positions with regard to the generic classification of the felids have been taken in the previous checklists (Jones et al., 1973; 1975; 1979; 1982; 1986; 1992). In order to attempt to end the quandary and confusion about names of felids demonstrated previously, we herein adopt the arrangement by Wozencraft (1993). However, we continue to emphasize the need for a thorough phylogenetic analysis on which to base decisions for recognition of genera in this complex group. We retain the long-

standing vernacular names of mountain lion and Canada lynx for *Puma concolor* and *Lynx canadensis*, respectively.

## CETACEANS

*Balaenopteridae*.—The name of Bryde's whale reverts to *Balaenoptera brydei* Olsen, 1913, because molecular studies have shown that *B. edeni* Anderson, 1879, can not be considered conspecific with Bryde's whale (Dizon et al., 1995; in press).

*Delphinidae*.—In the genus *Delphinus*, recent studies of morphology (Heyning and Perrin, 1994) and mitochondrial DNA sequences (Rosel et al., 1994) show that there are at least two species, a short-beaked offshore form (*D. delphis*) and a long-beaked coastal form (*D. capensis*). Each has a wide, but disjunct, distribution in tropical and warm temperate waters around the world; their ranges are mostly parapatric, with some local marginal overlap. *Delphinus delphis* is distributed widely in the North Pacific, the North Atlantic, and the Gulf of Mexico. In American waters north of Mexico, the occurrence of *D. capensis* has been confirmed only in southern California. One additional species, the melon-headed whale (*Peponocephala electra*) has been reported from Texas and Maryland (Barron and Jefferson, 1993).

*Kogiidae*.—*Kogia simus* is changed to *K. sima* in order to have agreement in gender of the two words (Rice, in press).

## ARTIODACTYLS

*Suidae*.—We continue to use the name *Sus scrofa* to refer to both the feral pig and the European wild boar. However, we call attention to the review of the nomenclature by Mayer and Brisbin (1991) and the discussion of breeds of pigs by Porter (1993).

*Tayassuidae*.—For some time, there has been considerable confusion with regard to the correct name for the collared peccary (Jones et al., 1973;

1975; 1979; 1982; 1986; 1992). At this time, we agree with Grubb (1993), who concluded that the names *Tayassu* and *Dicotyles* both apply to white-lipped peccaries. Therefore, Grubb (1993) regarded Miller (1912) as correct in the use of *Pecari* Reichenbach, 1835, as the first available name for the genus of collared peccary. Also, in accordance with Grubb (1993), we revert to the use of the familial name *Tayassuidae*.

*Cervidae*.—We favor the recognition of the genera *Axis* and *Dama* for the axis and fallow deer, respectively, in accordance with Groves and Grubb (1987) and Grubb (1993).

*Bovidae*.—Based on evidence presented by Mungall and Sheffield (1994), *Bos taurus* (domestic cattle) and *Ovis aries* (European mouflon sheep) have been added to the list of non-native species that occur in reproducing populations in the wild. *Capra aegagrus* was placed in synonymy with *C. hircus* by Grubb (1993). Finally, Wall et al. (1992) provided additional data in support of the placement of *Bison* in synonymy with *Bos* as suggested previously by Groves (1981) and Miyamoto et al. (1989). Therefore, we continue the somewhat unpopular decision to use the name combination of *Bos bison* for the American bison.

## CHECKLIST

As in the past (Jones et al., 1992), orders, families, and genera are placed in conventional phylogenetic sequence. However, species are arranged

alphabetically within each genus. The intent of this arrangement is to facilitate use of the checklist.

### ORDER DIDELPHIMORPHIA—Opossums

#### Family Didelphidae—Opossums

<i>Didelphis virginiana</i> .....	Virginia Opossum
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### ORDER INSECTIVORA—Insectivores

#### Family Soricidae—Shrews

<i>Sorex alaskanus</i> .....	Glacier Bay Water Shrew
<i>Sorex arcticus</i> .....	Arctic Shrew
<i>Sorex arizonae</i> .....	Arizona Shrew
<i>Sorex bairdii</i> .....	Baird's Shrew
<i>Sorex bendirii</i> .....	Pacific Water or Marsh Shrew
<i>Sorex cinereus</i> .....	Cinereus or Masked Shrew
<i>Sorex dispar</i> .....	Long-tailed or Rock Shrew
<i>Sorex fontinalis</i> .....	Maryland Shrew
<i>Sorex fumeus</i> .....	Smoky Shrew
<i>Sorex gaspensis</i> .....	Gaspé Shrew
<i>Sorex haydeni</i> .....	Hayden's Shrew
<i>Sorex hoyi</i> .....	Pygmy Shrew
<i>Sorex longirostris</i> .....	Southeastern Shrew
<i>Sorex lyelli</i> .....	Mt. Lyell Shrew
<i>Sorex merriami</i> .....	Merriam's Shrew
<i>Sorex monticolus</i> .....	Dusky or Montane Shrew
<i>Sorex nanus</i> .....	Dwarf Shrew
<i>Sorex ornatus</i> .....	Ornate Shrew
<i>Sorex pacificus</i> .....	Pacific Shrew
<i>Sorex palustris</i> .....	Common Water Shrew
<i>Sorex preblei</i> .....	Preble's Shrew

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<i>Sorex pribilofensis</i> .....	Pribilof Island Shrew
<i>Sorex sonomae</i> .....	Fog Shrew
<i>Sorex tenellus</i> .....	Inyo Shrew
<i>Sorex trowbridgii</i> .....	Trowbridge's Shrew
<i>Sorex tundrensis</i> .....	Tundra Shrew
<i>Sorex ugyunak</i> .....	Barren Ground Shrew
<i>Sorex vagrans</i> .....	Vagrant Shrew
<i>Sorex yukonicus</i> .....	Alaska Tiny Shrew
<i>Blarina brevicauda</i> .....	Northern Short-tailed Shrew
<i>Blarina carolinensis</i> .....	Southern Short-tailed Shrew
<i>Blarina hylophaga</i> .....	Elliot's Short-tailed Shrew
<i>Cryptotis parva</i> .....	Least Shrew
<i>Notiosorex crawfordi</i> .....	Desert Shrew

## Family Talpidae— Moles

<i>Neurotrichus gibbsii</i> .....	Shrew Mole
<i>Scapanus latimanus</i> .....	Broad-footed Mole
<i>Scapanus orarius</i> .....	Coast Mole
<i>Scapanus townsendii</i> .....	Townsend's Mole
<i>Parascalops breweri</i> .....	Hairy-tailed Mole
<i>Scalopus aquaticus</i> .....	Eastern Mole
<i>Condylura cristata</i> .....	Star-nosed Mole

## ORDER CHIROPTERA— Bats

## Family Mormoopidae— Mormoopid Bats

<i>Mormoops megalophylla</i> .....	Ghost-faced Bat
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## Family Phyllostomidae— Phyllostomid Bats

<i>Macrotus californicus</i> .....	California Leaf-nosed Bat
<i>Choeronycteris mexicana</i> .....	Mexican Long-tongued Bat
<i>Leptonycteris curasaoe</i> .....	Southern Long-nosed Bat
<i>Leptonycteris nivalis</i> .....	Mexican Long-nosed Bat
<i>Diphylla ecaudata</i> .....	Hairy-legged Vampire

## Family Vespertilionidae— Vespertilionid Bats

<i>Myotis auriculus</i> .....	Southwestern Myotis
<i>Myotis austroriparius</i> .....	Southeastern Myotis
<i>Myotis californicus</i> .....	California Myotis
<i>Myotis ciliolabrum</i> .....	Western Small-footed Myotis
<i>Myotis evotis</i> .....	Long-eared Myotis
<i>Myotis griseescens</i> .....	Gray Myotis
<i>Myotis keenii</i> .....	Keen's Myotis
<i>Myotis leibii</i> .....	Eastern Small-footed Myotis
<i>Myotis lucifugus</i> .....	Little Brown Myotis
<i>Myotis septentrionalis</i> .....	Northern Myotis
<i>Myotis sodalis</i> .....	Indiana or Social Myotis
<i>Myotis thysanodes</i> .....	Fringed Myotis
<i>Myotis velifer</i> .....	Cave Myotis
<i>Myotis volans</i> .....	Long-legged Myotis
<i>Myotis yumanensis</i> .....	Yuma Myotis
<i>Lasiurus blossevillii</i> .....	Western Red Bat
<i>Lasiurus borealis</i> .....	Eastern Red Bat
<i>Lasiurus cinereus</i> .....	Hoary Bat
<i>Lasiurus ega</i> .....	Southern Yellow Bat

<i>Lasiurus intermedius</i>	Northern Yellow Bat
<i>Lasiurus seminolus</i>	Seminole Bat
<i>Lasiurus xanthinus</i>	Western Yellow Bat
<i>Lasionycteris noctivagans</i>	Silver-haired Bat
<i>Pipistrellus hesperus</i>	Western Pipistrelle
<i>Pipistrellus subflavus</i>	Eastern Pipistrelle
<i>Eptesicus fuscus</i>	Big Brown Bat
<i>Nycticeius humeralis</i>	Evening Bat
<i>Euderma maculatum</i>	Spotted Bat
<i>Plecotus rafinesquii</i>	Rafinesque's Big-eared Bat
<i>Plecotus townsendii</i>	Townsend's Big-eared Bat
<i>Idionycteris phyllotis</i>	Allen's Big-eared Bat
<i>Antrozous pallidus</i>	Pallid Bat

## Family Molossidae—Molossid Bats

<i>Tadarida brasiliensis</i>	Brazilian Free-tailed Bat
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat
<i>Nyctinomops macrotis</i>	Big Free-tailed Bat
<i>Eumops glaucinus</i>	Wagner's Mastiff Bat
<i>Eumops perotis</i>	Western Mastiff Bat
<i>Eumops underwoodi</i>	Underwood's Mastiff Bat
<i>Molossus molossus</i>	Velvety Free-tailed Bat

## ORDER PRIMATES—Primates

## Family Cercopithecidae—Old World Monkeys

<i>Macaca fuscata</i> *	Japanese Macaque
<i>Macaca mulatta</i> *	Rhesus Macaque

## ORDER XENARTHRA—Xenarthrans

## Family Dasypodidae—Armadillos

<i>Dasypus novemcinctus</i>	Nine-banded Armadillo
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## ORDER LAGOMORPHA—Lagomorphs

## Family Ochotonidae—Pikas

<i>Ochotona collaris</i>	Collared Pika
<i>Ochotona princeps</i>	American Pika

## Family Leporidae—Hares and Rabbits

<i>Brachylagus idahoensis</i>	Pygmy Rabbit
<i>Sylvilagus aquaticus</i>	Swamp Rabbit
<i>Sylvilagus audubonii</i>	Desert Cottontail
<i>Sylvilagus bachmani</i>	Brush Rabbit
<i>Sylvilagus floridanus</i>	Eastern Cottontail
<i>Sylvilagus nuttallii</i>	Mountain Cottontail
<i>Sylvilagus obscurus</i>	Appalachian Cottontail
<i>Sylvilagus palustris</i>	Marsh Rabbit
<i>Sylvilagus transitionalis</i>	New England Cottontail
<i>Oryctolagus cuniculus</i> *	European Rabbit
<i>Lepus alleni</i>	Antelope Jackrabbit
<i>Lepus americanus</i>	Snowshoe Hare
<i>Lepus arcticus</i>	Arctic Hare
<i>Lepus californicus</i>	Black-tailed Jackrabbit
<i>Lepus callotis</i>	White-sided Jackrabbit

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<i>Lepus europaeus*</i> .....	European Hare
<i>Lepus othus</i> .....	Alaska Hare
<i>Lepus townsendii</i> .....	White-tailed Jackrabbit

## ORDER RODENTIA— Rodents

## Family Aplodontiidae— Mountain Beaver

<i>Aplodontia rufa</i> .....	Mountain Beaver
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## Family Sciuridae— Squirrels

<i>Tamias alpinus</i> .....	Alpine Chipmunk
<i>Tamias amoenus</i> .....	Yellow-pine Chipmunk
<i>Tamias canipes</i> .....	Gray-footed Chipmunk
<i>Tamias cinereicollis</i> .....	Gray-collared Chipmunk
<i>Tamias dorsalis</i> .....	Cliff Chipmunk
<i>Tamias merriami</i> .....	Merriam's Chipmunk
<i>Tamias minimus</i> .....	Least Chipmunk
<i>Tamias obscurus</i> .....	California Chipmunk
<i>Tamias ochrogenys</i> .....	Yellow-cheeked Chipmunk
<i>Tamias palmeri</i> .....	Palmer's Chipmunk
<i>Tamias panamintinus</i> .....	Panamint Chipmunk
<i>Tamias quadrimaculatus</i> .....	Long-eared Chipmunk
<i>Tamias quadrivittatus</i> .....	Colorado Chipmunk
<i>Tamias ruficaudus</i> .....	Red-tailed Chipmunk
<i>Tamias rufus</i> .....	Hopi Chipmunk
<i>Tamias senex</i> .....	Allen's Chipmunk
<i>Tamias siskiyou</i> .....	Siskiyou Chipmunk
<i>Tamias sonomae</i> .....	Sonoma Chipmunk
<i>Tamias speciosus</i> .....	Lodgepole Chipmunk
<i>Tamias striatus</i> .....	Eastern Chipmunk
<i>Tamias townsendii</i> .....	Townsend's Chipmunk
<i>Tamias umbrinus</i> .....	Uinta Chipmunk
<i>Marmota broweri</i> .....	Alaska Marmot
<i>Marmota caligata</i> .....	Hoary Marmot
<i>Marmota flaviventris</i> .....	Yellow-bellied Marmot
<i>Marmota monax</i> .....	Woodchuck
<i>Marmota olympus</i> .....	Olympic Marmot
<i>Marmota vancouverensis</i> .....	Vancouver Marmot
<i>Ammospermophilus harrisi</i> .....	Harris' Antelope Squirrel
<i>Ammospermophilus interpres</i> .....	Texas Antelope Squirrel
<i>Ammospermophilus leucurus</i> .....	White-tailed Antelope Squirrel
<i>Ammospermophilus nelsoni</i> .....	Nelson's Antelope Squirrel
<i>Spermophilus armatus</i> .....	Uinta Ground Squirrel
<i>Spermophilus beecheyi</i> .....	California Ground Squirrel
<i>Spermophilus beldingi</i> .....	Belding's Ground Squirrel
<i>Spermophilus brunneus</i> .....	Idaho Ground Squirrel
<i>Spermophilus canus</i> .....	Columbia Plateau Ground Squirrel
<i>Spermophilus columbianus</i> .....	Columbian Ground Squirrel
<i>Spermophilus elegans</i> .....	Wyoming Ground Squirrel
<i>Spermophilus franklinii</i> .....	Franklin's Ground Squirrel
<i>Spermophilus lateralis</i> .....	Golden-mantled Ground Squirrel
<i>Spermophilus mexicanus</i> .....	Mexican Ground Squirrel
<i>Spermophilus mohavensis</i> .....	Mohave Ground Squirrel

<i>Spermophilus mollis</i>	Great Basin Ground Squirrel
<i>Spermophilus parryii</i>	Arctic Ground Squirrel
<i>Spermophilus richardsonii</i>	Richardson's Ground Squirrel
<i>Spermophilus saturatus</i>	Cascade Golden-mantled Ground Squirrel
<i>Spermophilus spilosoma</i>	Spotted Ground Squirrel
<i>Spermophilus tereticaudus</i>	Round-tailed Ground Squirrel
<i>Spermophilus townsendii</i>	Townsend's Ground Squirrel
<i>Spermophilus tridecemlineatus</i>	Thirteen-lined Ground Squirrel
<i>Spermophilus variegatus</i>	Rock Squirrel
<i>Spermophilus washingtoni</i>	Washington Ground Squirrel
<i>Cynomys gunnisoni</i>	Gunnison's Prairie-dog
<i>Cynomys leucurus</i>	White-tailed Prairie-dog
<i>Cynomys ludovicianus</i>	Black-tailed Prairie-dog
<i>Cynomys parvidens</i>	Utah Prairie-dog
<i>Sciurus aberti</i>	Abert's Squirrel
<i>Sciurus arizonensis</i>	Arizona Gray Squirrel
<i>Sciurus aureogaster</i> *	Mexican Gray Squirrel
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel
<i>Sciurus griseus</i>	Western Gray Squirrel
<i>Sciurus nayaritensis</i>	Mexican Fox Squirrel
<i>Sciurus niger</i>	Eastern Fox Squirrel
<i>Tamiasciurus douglasii</i>	Douglas' Squirrel
<i>Tamiasciurus hudsonicus</i>	Red Squirrel
<i>Glaucomys sabrinus</i>	Northern Flying Squirrel
<i>Glaucomys volans</i>	Southern Flying Squirrel
Family Geomyidae—Pocket Gophers	
<i>Thomomys bottae</i>	Botta's Pocket Gopher
<i>Thomomys bulbivorus</i>	Camas Pocket Gopher
<i>Thomomys clusius</i>	Wyoming Pocket Gopher
<i>Thomomys idahoensis</i>	Idaho Pocket Gopher
<i>Thomomys mazama</i>	Western Pocket Gopher
<i>Thomomys monticola</i>	Mountain Pocket Gopher
<i>Thomomys talpoides</i>	Northern Pocket Gopher
<i>Thomomys townsendii</i>	Townsend's Pocket Gopher
<i>Thomomys umbrinus</i>	Southern Pocket Gopher
<i>Geomys arenarius</i>	Desert Pocket Gopher
<i>Geomys attwateri</i>	Attwater's Pocket Gopher
<i>Geomys breviceps</i>	Baird's Pocket Gopher
<i>Geomys bursarius</i>	Plains Pocket Gopher
<i>Geomys knoxjonesi</i>	Jones' Pocket Gopher
<i>Geomys personatus</i>	Texas Pocket Gopher
<i>Geomys pinetis</i>	Southeastern Pocket Gopher
<i>Geomys texensis</i>	Llano Pocket Gopher
<i>Cratogeomys castanops</i>	Yellow-faced Pocket Gopher
Family Heteromyidae—Heteromyids	
<i>Perognathus alticolus</i>	White-eared Pocket Mouse
<i>Perognathus amplus</i>	Arizona Pocket Mouse
<i>Perognathus fasciatus</i>	Olive-backed Pocket Mouse
<i>Perognathus flavescens</i>	Plains Pocket Mouse
<i>Perognathus flavus</i>	Silky Pocket Mouse
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse

<i>Perognathus longimembris</i> .....	Little Pocket Mouse
<i>Perognathus merriami</i> .....	Merriam's Pocket Mouse
<i>Perognathus parvus</i> .....	Great Basin Pocket Mouse
<i>Chaetodipus baileyi</i> .....	Bailey's Pocket Mouse
<i>Chaetodipus californicus</i> .....	California Pocket Mouse
<i>Chaetodipus eremicus</i> .....	Chihuahuan Desert Pocket Mouse
<i>Chaetodipus fallax</i> .....	San Diego Pocket Mouse
<i>Chaetodipus formosus</i> .....	Long-tailed Pocket Mouse
<i>Chaetodipus hispidus</i> .....	Hispid Pocket Mouse
<i>Chaetodipus intermedius</i> .....	Rock Pocket Mouse
<i>Chaetodipus nelsoni</i> .....	Nelson's Pocket Mouse
<i>Chaetodipus penicillatus</i> .....	Sonoran Desert Pocket Mouse
<i>Chaetodipus spinatus</i> .....	Spiny Pocket Mouse
<i>Microdipodops megacephalus</i> .....	Dark Kangaroo Mouse
<i>Microdipodops pallidus</i> .....	Pale Kangaroo Mouse
<i>Dipodomys agilis</i> .....	Agile Kangaroo Rat
<i>Dipodomys californicus</i> .....	California Kangaroo Rat
<i>Dipodomys compactus</i> .....	Gulf Coast Kangaroo Rat
<i>Dipodomys deserti</i> .....	Desert Kangaroo Rat
<i>Dipodomys elator</i> .....	Texas Kangaroo Rat
<i>Dipodomys heermanni</i> .....	Heermann's Kangaroo Rat
<i>Dipodomys ingens</i> .....	Giant Kangaroo Rat
<i>Dipodomys merriami</i> .....	Merriam's Kangaroo Rat
<i>Dipodomys microps</i> .....	Chisel-toothed Kangaroo Rat
<i>Dipodomys nitratoides</i> .....	Fresno Kangaroo Rat
<i>Dipodomys ordii</i> .....	Ord's Kangaroo Rat
<i>Dipodomys panamintinus</i> .....	Panamint Kangaroo Rat
<i>Dipodomys simulans</i> .....	Dulzura Kangaroo Rat
<i>Dipodomys spectabilis</i> .....	Banner-tailed Kangaroo Rat
<i>Dipodomys stephensi</i> .....	Stephen's Kangaroo Rat
<i>Dipodomys venustus</i> .....	Narrow-faced Kangaroo Rat
<i>Liomys irroratus</i> .....	Mexican Spiny Pocket Mouse
Family Castoridae— Beavers	
<i>Castor canadensis</i> .....	American Beaver
Family Muridae— Mice, Rats, and Voles	
<i>Oryzomys couesi</i> .....	Coues' Rice Rat
<i>Oryzomys palustris</i> .....	Marsh Rice Rat
<i>Reithrodontomys fulvescens</i> .....	Fulvous Harvest Mouse
<i>Reithrodontomys humulis</i> .....	Eastern Harvest Mouse
<i>Reithrodontomys megalotis</i> .....	Western Harvest Mouse
<i>Reithrodontomys montanus</i> .....	Plains Harvest Mouse
<i>Reithrodontomys raviventris</i> .....	Salt-marsh Harvest Mouse
<i>Peromyscus attwateri</i> .....	Texas Mouse
<i>Peromyscus boylii</i> .....	Brush Mouse
<i>Peromyscus californicus</i> .....	California Mouse
<i>Peromyscus crinitus</i> .....	Canyon Mouse
<i>Peromyscus eremicus</i> .....	Cactus Mouse
<i>Peromyscus gossypinus</i> .....	Cotton Mouse
<i>Peromyscus gratus</i> .....	Osgood's Mouse
<i>Peromyscus keeni</i> .....	Keen's Mouse
<i>Peromyscus leucopus</i> .....	White-footed Mouse

<i>Peromyscus maniculatus</i> .....	Deer Mouse
<i>Peromyscus melanotis</i> .....	Black-eared Mouse
<i>Peromyscus merriami</i> .....	Merriam's Mouse
<i>Peromyscus nasutus</i> .....	Northern Rock Mouse
<i>Peromyscus pectoralis</i> .....	White-ankled Mouse
<i>Peromyscus polionotus</i> .....	Oldfield Mouse
<i>Peromyscus truei</i> .....	Piñon Mouse
<i>Podomys floridanus</i> .....	Florida Mouse
<i>Ochrotomys nuttalli</i> .....	Golden Mouse
<i>Baiomys taylori</i> .....	Northern Pygmy Mouse
<i>Onychomys arenicola</i> .....	Mearn's Grasshopper Mouse
<i>Onychomys leucogaster</i> .....	Northern Grasshopper Mouse
<i>Onychomys torridus</i> .....	Southern Grasshopper Mouse
<i>Sigmodon arizonae</i> .....	Arizona Cotton Rat
<i>Sigmodon fulviventer</i> .....	Tawny-bellied Cotton Rat
<i>Sigmodon hispidus</i> .....	Hispid Cotton Rat
<i>Sigmodon ochrognathus</i> .....	Yellow-nosed Cotton Rat
<i>Neotoma albigena</i> .....	White-throated Woodrat
<i>Neotoma cinerea</i> .....	Bushy-tailed Woodrat
<i>Neotoma devia</i> .....	Arizona Woodrat
<i>Neotoma floridana</i> .....	Eastern Woodrat
<i>Neotoma fuscipes</i> .....	Dusky-footed Woodrat
<i>Neotoma lepida</i> .....	Desert Woodrat
<i>Neotoma magister</i> .....	Appalachian Woodrat
<i>Neotoma mexicana</i> .....	Mexican Woodrat
<i>Neotoma micropus</i> .....	Southern Plains Woodrat
<i>Neotoma stephensi</i> .....	Stephen's Woodrat
<i>Rattus norvegicus</i> * .....	Norway Rat
<i>Rattus rattus</i> * .....	Black Rat
<i>Mus musculus</i> * .....	House Mouse
<i>Clethrionomys californicus</i> .....	Western Red-backed Vole
<i>Clethrionomys gapperi</i> .....	Southern Red-backed Vole
<i>Clethrionomys rutilus</i> .....	Northern Red-backed Vole
<i>Aborimus albipes</i> .....	White-footed Vole
<i>Aborimus longicaudus</i> .....	Red Tree Vole
<i>Aborimus pomoe</i> .....	Sonoma Tree Vole
<i>Phenacomys intermedius</i> .....	Western Heather Vole
<i>Phenacomys ungava</i> .....	Eastern Heather Vole
<i>Microtus abbreviatus</i> .....	Insular Vole
<i>Microtus breweri</i> .....	Beach Vole
<i>Microtus californicus</i> .....	California Vole
<i>Microtus canicaudus</i> .....	Gray-tailed Vole
<i>Microtus chrotorrhinus</i> .....	Rock Vole
<i>Microtus longicaudus</i> .....	Long-tailed Vole
<i>Microtus mexicanus</i> .....	Mexican Vole
<i>Microtus miurus</i> .....	Singing Vole
<i>Microtus montanus</i> .....	Montane Vole
<i>Microtus ochrogaster</i> .....	Prairie Vole
<i>Microtus oeconomus</i> .....	Tundra Vole
<i>Microtus oregoni</i> .....	Creeping Vole
<i>Microtus pennsylvanicus</i> .....	Meadow Vole

<i>Microtus pinetorum</i> .....	Woodland Vole
<i>Microtus richardsoni</i> .....	Water Vole
<i>Microtus townsendii</i> .....	Townsend's Vole
<i>Microtus xanthognathus</i> .....	Yellow-cheeked or Taiga Vole
<i>Lemmiscus curtatus</i> .....	Sagebrush Vole
<i>Neofiber alleni</i> .....	Round-tailed Muskrat
<i>Ondatra zibethicus</i> .....	Common Muskrat
<i>Lemmus trimucronatus</i> .....	Brown Lemming
<i>Synaptomys borealis</i> .....	Northern Bog Lemming
<i>Synaptomys cooperi</i> .....	Southern Bog Lemming
<i>Dicrostonyx exsul</i> .....	St. Lawrence Island Collared Lemming
<i>Dicrostonyx groenlandicus</i> .....	Peary Land Collared Lemming
<i>Dicrostonyx hudsonius</i> .....	Labrador Collared Lemming
<i>Dicrostonyx kilangmiutak</i> .....	Victoria Collared Lemming
<i>Dicrostonyx nelsoni</i> .....	Nelson's Collared Lemming
<i>Dicrostonyx nunatakensis</i> .....	Ogilvie Mountain Collared Lemming
<i>Dicrostonyx richardsoni</i> .....	Richardson's Collared Lemming
<i>Dicrostonyx rubricatus</i> .....	Bering Collared Lemming
<i>Dicrostonyx unalascensis</i> .....	Unalaska Collared Lemming
Family Zapodidae— Jumping Mice	
<i>Zapus hudsonius</i> .....	Meadow Jumping Mouse
<i>Zapus princeps</i> .....	Western Jumping Mouse
<i>Zapus trinotatus</i> .....	Pacific Jumping Mouse
<i>Napaeozapus insignis</i> .....	Woodland Jumping Mouse
Family Erethizontidae— New World Porcupines	
<i>Erethizon dorsatum</i> .....	Common Porcupine
Family Myocastoridae— Myocastorids	
<i>Myocastor coypus</i> *.....	Nutria

## ORDER CARNIVORA— Carnivores

Family Canidae— Canids	
<i>Canis familiaris</i> * .....	Feral Dog
<i>Canis latrans</i> .....	Coyote
<i>Canis lupus</i> .....	Gray Wolf
<i>Canis rufus</i> .....	Red Wolf
<i>Alopex lagopus</i> .....	Arctic Fox
<i>Vulpes macrotis</i> .....	Kit Fox
<i>Vulpes velox</i> .....	Swift Fox
<i>Vulpes vulpes</i> .....	Red Fox
<i>Urocyon cinereoargenteus</i> .....	Common Gray Fox
<i>Urocyon littoralis</i> .....	Island Gray Fox
Family Ursidae— Bears	
<i>Ursus americanus</i> .....	Black Bear
<i>Ursus arctos</i> .....	Grizzly or Brown Bear
<i>Ursus maritimus</i> .....	Polar Bear
Family Otariidae— Eared Seals	
<i>Callorhinus ursinus</i> .....	Northern Fur-Seal
<i>Arctocephalus townsendi</i> .....	Guadalupe Fur-Seal
<i>Eumetopias jubatus</i> .....	Northern Sea-Lion
<i>Zalophus californianus</i> .....	California Sea-Lion

## Family Odobenidae—Walrus

*Odobenus rosmarus* ..... Walrus

## Family Phocidae—Hair Seals

<i>Phoca largha</i> .....	Spotted Seal
<i>Phoca vitulina</i> .....	Harbor Seal
<i>Pusa hispida</i> .....	Ringed Seal
<i>Halichoerus grypus</i> .....	Gray Seal
<i>Pagophilus groenlandicus</i> .....	Harp Seal
<i>Histriophoca fasciata</i> .....	Ribbon Seal
<i>Erignathus barbatus</i> .....	Bearded Seal
<i>Cystophora cristata</i> .....	Hooded Seal
<i>Monachus tropicalis</i> .....	West Indian Monk Seal
<i>Mirounga angustirostris</i> .....	Northern Elephant Seal

## Family Procyonidae—Procyonids

<i>Bassariscus astutus</i> .....	Ringtail
<i>Procyon lotor</i> .....	Common Raccoon
<i>Nasua narica</i> .....	White-nosed Coati

## Family Mustelidae—Mustelids

<i>Martes americana</i> .....	American Marten
<i>Martes pennanti</i> .....	Fisher
<i>Mustela erminea</i> .....	Ermine
<i>Mustela frenata</i> .....	Long-tailed Weasel
<i>Mustela nigripes</i> .....	Black-footed Ferret
<i>Mustela nivalis</i> .....	Least Weasel
<i>Mustela putorius</i> * .....	European Ferret
<i>Mustela vison</i> .....	American Mink
<i>Gulo gulo</i> .....	Wolverine
<i>Taxidea taxus</i> .....	American Badger
<i>Lontra canadensis</i> .....	Northern River Otter
<i>Enhydra lutris</i> .....	Sea Otter

## Family Mephitidae—Mephitids

<i>Spilogale gracilis</i> .....	Western Spotted Skunk
<i>Spilogale putorius</i> .....	Eastern Spotted Skunk
<i>Mephitis macroura</i> .....	Hooded Skunk
<i>Mephitis mephitis</i> .....	Striped Skunk
<i>Conepatus leuconotus</i> .....	Eastern Hog-nosed Skunk
<i>Conepatus mesoleucus</i> .....	Common Hog-nosed Skunk

## Family Felidae—Cats

<i>Felis catus</i> * .....	Feral Cat
<i>Puma concolor</i> .....	Mountain Lion
<i>Leopardus pardalis</i> .....	Ocelot
<i>Leopardus wiedii</i> .....	Margay
<i>Herpailurus yagouaroundi</i> .....	Jaguarundi
<i>Lynx canadensis</i> .....	Canada Lynx
<i>Lynx rufus</i> .....	Bobcat
<i>Panthera onca</i> .....	Jaguar

## ORDER CETACEA—Whales

## Family Eschrichtiidae—Gray Whale

*Eschrichtius robustus* ..... Gray Whale

## Family Balaenopteridae— Rorquals

<i>Balaenoptera acutorostrata</i> .....	Minke Whale
<i>Balaenoptera borealis</i> .....	Sei Whale
<i>Balaenoptera brydei</i> .....	Bryde's Whale
<i>Balaenoptera musculus</i> .....	Blue Whale
<i>Balaenoptera physalus</i> .....	Fin Whale
<i>Megaptera novaeangliae</i> .....	Humpback Whale

## Family Balaenidae— Right Whales

<i>Balaena glacialis</i> .....	Black Right Whale
<i>Balaena mysticetus</i> .....	Bowhead Whale

## Family Monodontidae— Monodontids

<i>Delphinapterus leucas</i> .....	White Whale or Beluga
<i>Monodon monoceros</i> .....	Narwhal

## Family Delphinidae— Delphinids

<i>Steno bredanensis</i> .....	Rough-toothed Dolphin
<i>Tursiops truncatus</i> .....	Bottle-nosed Dolphin
<i>Stenella attenuata</i> .....	Pantropical Spotted Dolphin
<i>Stenella clymene</i> .....	Clymene Dolphin
<i>Stenella coeruleoalba</i> .....	Striped Dolphin
<i>Stenella frontalis</i> .....	Atlantic Spotted Dolphin
<i>Stenella longirostris</i> .....	Spinner Dolphin
<i>Delphinus capensis</i> .....	Long-beaked Saddleback Dolphin
<i>Delphinus delphis</i> .....	Short-beaked Saddleback Dolphin
<i>Lagenodelphis hosei</i> .....	Fraser's Dolphin
<i>Lagenorhynchus acutus</i> .....	Atlantic White-sided Dolphin
<i>Lagenorhynchus albirostris</i> .....	White-beaked Dolphin
<i>Lagenorhynchus obliquidens</i> .....	Pacific White-sided Dolphin
<i>Grampus griseus</i> .....	Risso's Dolphin or Grampus
<i>Peponocephala electra</i> .....	Melon-headed Whale
<i>Feresa attenuata</i> .....	Pygmy Killer Whale
<i>Pseudorca crassidens</i> .....	False Killer Whale
<i>Globicephala macrorhynchus</i> .....	Short-finned Pilot Whale
<i>Globicephala melas</i> .....	Long-finned Pilot Whale
<i>Orcinus orca</i> .....	Killer Whale
<i>Lissodelphis borealis</i> .....	Northern Right-whale Dolphin

## Family Phocoenidae— Porpoises

<i>Phocoena phocoena</i> .....	Harbor Porpoise
<i>Phocoenoides dalli</i> .....	Dall's Porpoise

## Family Ziphidae— Beaked Whales

<i>Berardius bairdii</i> .....	North Pacific Bottle-nosed Whale
<i>Ziphius cavirostris</i> .....	Goose-beaked Whale
<i>Hyperoodon ampullatus</i> .....	North Atlantic Bottle-nosed Whale
<i>Mesoplodon bidens</i> .....	North Atlantic Beaked Whale
<i>Mesoplodon carlhubbsi</i> .....	Arch-beaked Whale
<i>Mesoplodon densirostris</i> .....	Dense-beaked Whale
<i>Mesoplodon europaeus</i> .....	Gervais' Beaked Whale
<i>Mesoplodon ginkgodens</i> .....	Ginkgo-toothed Whale
<i>Mesoplodon hectori</i> .....	Hector's Beaked Whale
<i>Mesoplodon mirus</i> .....	True's Beaked Whale
<i>Mesoplodon stejnegeri</i> .....	Bering Sea Beaked Whale

Family Kogiidae—Pygmy Sperm Whales	
<i>Kogia breviceps</i> .....	Pygmy Sperm Whale
<i>Kogia sima</i> .....	Dwarf Sperm Whale
Family Physeteridae—Sperm Whales	
<i>Physeter macrocephalus</i> .....	Sperm Whale
ORDER SIRENIA—Sea Cows	
Family Trichechidae—Manatees	
<i>Trichechus manatus</i> .....	Manatee
ORDER PERISSODACTYLA—Odd-toed Ungulates	
Family Equidae—Equids	
<i>Equus asinus</i> * .....	Feral Ass
<i>Equus caballus</i> * .....	Feral Horse
ORDER ARTIODACTYLA—Even-toed Ungulates	
Family Suidae—Pigs	
<i>Sus scrofa</i> * .....	Feral Pig
Family Tayassuidae—Peccaries	
<i>Pecari tajacu</i> .....	Collared Peccary
Family Cervidae—Cervids	
<i>Axis axis</i> * .....	Axis Deer
<i>Dama dama</i> * .....	Fallow Deer
<i>Cervus elaphus</i> .....	Wapiti or Elk
<i>Cervus nippon</i> * .....	Sika Deer
<i>Cervus unicolor</i> * .....	Sambar Deer
<i>Odocoileus hemionus</i> .....	Mule or Black-tailed Deer
<i>Odocoileus virginianus</i> .....	White-tailed Deer
<i>Alces alces</i> .....	Moose
<i>Rangifer tarandus</i> .....	Caribou
Family Antilocapridae—Pronghorn	
<i>Antilocapra americana</i> .....	Pronghorn
Family Bovidae—Bovids	
<i>Bos bison</i> .....	American Bison
<i>Bos taurus</i> * .....	Domestic Cattle
<i>Boselaphus tragocamelus</i> * .....	Nilgai
<i>Oryx gazella</i> * .....	Gemsbok
<i>Antilope cervicapra</i> * .....	Blackbuck
<i>Hemitragus jemlahicus</i> * .....	Himalayan Tahr
<i>Capra hircus</i> * .....	Goat
<i>Capra ibex</i> * .....	Ibex
<i>Oreamnos americanus</i> .....	Mountain Goat
<i>Ovis moschatus</i> .....	Muskox
<i>Ovis aries</i> * .....	European Mouflon Sheep
<i>Ovis canadensis</i> .....	Mountain or Bighorn Sheep
<i>Ovis dalli</i> .....	Dall's or Thinhorn Sheep
<i>Ammotragus lervia</i> * .....	Barbary Sheep or Aoudad

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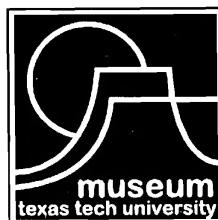
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It was through the efforts of Horn Professor J Knox Jones, as director of Academic Publications, that Texas Tech University initiated several publications series including the Occasional Papers of the Museum. This and future editions in the series are a memorial to his dedication to excellence in academic publications. Professor Jones enjoyed editing scientific publications and served the scientific community as an editor for the Journal of Mammalogy, Evolution, The Texas Journal of Science, Occasional Papers of the Museum, and Special Publications of the Museum. It is with special fondness that we remember Dr. J Knox Jones.

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